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मानक

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“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 6891 (1973): Carpenters' Auger Bits [PGD 6: Earth, Metal And Wood Working Hand Tools]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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AMENDMENT NO. 1 MAY 1996
TO
IS 6891 : 1973 SPECIFICATION FOR
CARPENTERS' AUGER BITS

(*Page 2, clause 5, line 2*) — Substitute '[see IS 1501 (Part 1) : 1984 Method for Vickers hardness test for metallic materials : Part 1 HV 5 to HV100 (*second revision*)]' for '(see IS : 1501 - 1959 Method for Vickers hardness test for steel)'.

(*Page 4, clause 11, line 2*) — Substitute 'IS 2500 (Part 1) : 1992 Sampling inspection procedures : Part 1 Attribute sampling plans indexed by acceptable quality level (AQL) for lot-by-lot inspection (*second revision*)' for 'IS : 2500 (Part I) - 1963 Sampling inspection tables : Part I Inspection by attributes and by count of defects'.

(*Page 4, clauses 11.1 and 11.2, lines 2 and 3*) — Substitute 'Tables I and II-A of IS 2500 (Part 1) : 1992' for 'Tables 1 and 2 of IS : 2500 (Part 1) - 1963'.

(PE 07)



Indian Standard
SPECIFICATION FOR
CARPENTERS' AUGER BITS

1. Scope — Covers the dimensions and general requirements for carpenters' auger bits.

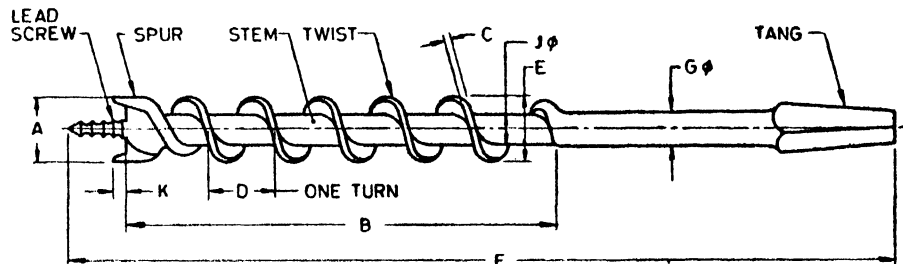
2. Types — The carpenters' auger bits shall be of the following types:
Type A — Solid centre auger bits (Jennings pattern nose),
Type B — Scotch pattern auger bits, and
Type C — Jennings pattern auger bits.

3. Dimensions and Tolerances

3.1 The bits shall conform to the dimensions given in Tables 1, 2 and 3.

TABLE 1 DIMENSIONS FOR SOLID CENTRE BITS (JENNINGS PATTERN NOSE), TYPE A

All dimensions in millimetres.



| Nominal Size A +0.8 -0 | Length of Twist B* | Peripheral Thickness of Twist C | Pitch D | Outside Dia of Twist E | Overall Length of Bit F | Dia of Shank G Max | Lead Screw Pitch | Thickness of Steam J | Height of Spur Above Cutting Edge K |
|---------------------------------|-----------------------|------------------------------------|------------|---------------------------|----------------------------|--------------------------|---------------------|-------------------------|--|
| 5 | 90 | 1.5 | 10 | 4.5 | 200 | 4.0 | Double Start 0.8 | 2.0 | 0.5 |
| 6 | 100 | 2 | 10 | 5.0 | 205 | 5.5 | 1 | 3.2 | 0.5 |
| 8 | 100 | 2 | 15 | 7.0 | 205 | 6.5 | 1 | 3.6 | 0.8 |
| 10 | 110 | 2.5 | 15 | 8.0 | 210 | 7.0 | 1 | 4.8 | 0.9 |
| 11 | 110 | 2.5 | 18 | 10.0 | 215 | 7.0 | 1 | 5.5 | 1.0 |
| 12 | 115 | 2.5 | 20 | 10.5 | 215 | 7.0 | 1 | 6.0 | 1.2 |
| 14 | 115 | 2.5 | 22 | 12.5 | 230 | 8.0 | Single Start 1.5 | 6.0 | 1.2 |
| 16 | 120 | 2.5 | 24 | 14.5 | 230 | 8.0 | 1.5 | 7.0 | 1.2 |
| 18 | 120 | 2.5 | 25 | 16.5 | 230 | 8.0 | 1.5 | 7.0 | 1.4 |
| 20 | 125 | 3.0 | 28 | 18.5 | 235 | 9.0 | 1.5 | 8.0 | 1.4 |
| 22 | 125 | 3.0 | 34 | 20.0 | 235 | 9.0 | 1.5 | 8.0 | 1.5 |
| 24 | 135 | 3.0 | 38 | 21.5 | 240 | 9.5 | 1.5 | 8.0 | 1.5 |
| 25 | 135 | 3.0 | 38 | 22.5 | 240 | 9.5 | 1.5 | 9.5 | 1.5 |
| 28 | 140 | 3.0 | 44 | 25.0 | 240 | 9.5 | 1.5 | 9.5 | 2.0 |
| 31 | 145 | 4.5 | 44 | 29.0 | 245 | 11.0 | 1.5 | 9.5 | 2.0 |
| 35 | 145 | 4.5 | 50 | 31.0 | 250 | 11.0 | 1.5 | 9.5 | 2.5 |
| 38 | 145 | 4.5 | 50 | 35.0 | 250 | 11.0 | 1.5 | 9.5 | 2.5 |

*Excluding lead screws and spurs.

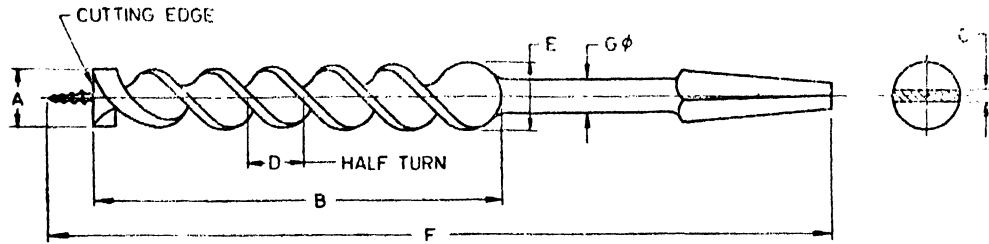
Adopted 23 February 1973

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TABLE 2 DIMENSIONS FOR SCOTCH PATTERN BITS, TYPE B

(Clause 3.1)

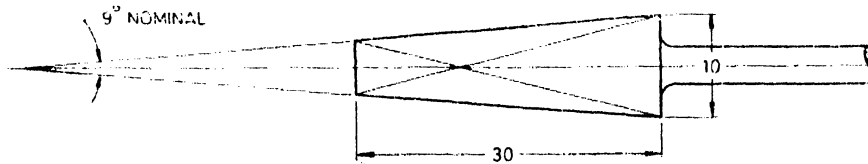
All dimensions in millimetres.



| Nominal Size A + 0.8 - 0 | Length of Twist B* | Sectional Thickness of Twist C | Pitch D | Outside Diameter of Twist E | Overall Length of Bits F | Diameter of Shank G Max | Lead Screw Pitch |
|-----------------------------------|-----------------------|-----------------------------------|------------|--------------------------------|-----------------------------|-------------------------------|------------------|
| 6 | 105 | 2.5 | 8.5 | 5 | 205 | 5.6 | Single Start |
| 8 | 105 | 2.5 | 9.5 | 6.5 | 205 | 6.35 | 1.75 |
| 10 | 120 | 2.5 | 13.0 | 8.5 | 210 | 7.2 | 1.75 |
| 11 | 125 | 3.0 | 14.5 | 9.5 | 215 | 7.2 | 2.0 |
| 12 | 125 | 3.0 | 17.0 | 10.5 | 215 | 7.2 | 2.5 |
| 14 | 125 | 3.0 | 17.0 | 12.5 | 230 | 8.0 | 2.5 |
| 16 | 125 | 3.0 | 17.0 | 14.5 | 230 | 8.0 | 2.5 |
| 18 | 125 | 3.0 | 20.0 | 16.5 | 230 | 8.0 | 2.5 |
| 20 | 125 | 4.0 | 22.0 | 18.5 | 235 | 8.75 | 2.5 |
| 22 | 130 | 4.0 | 25.5 | 20.5 | 235 | 8.75 | 2.5 |
| 25 | 130 | 4.0 | 28.0 | 23 | 235 | 9.5 | 2.5 |
| 28 | 135 | 4.0 | 30.0 | 24 | 240 | 9.5 | 2.5 |
| 32 | 135 | 4.5 | 34.0 | 28 | 240 | 11.0 | 2.5 |
| 34 | 140 | 5 | 38 | 30 | 255 | 11.0 | 2.5 |
| 38 | 140 | 5 | 38 | 34 | 255 | 11.0 | 2.5 |

*Excluding lead screw.

3.2 The nominal dimensions of the tangs of bits shall be as given below:



3.3 Tolerances — Tolerances on the un-toleranced dimensions shall be in accordance with best prevalent manufacturing practices.

4. Material — The bits shall be manufactured from good quality carbon or alloy tool steel.

Example of Material:

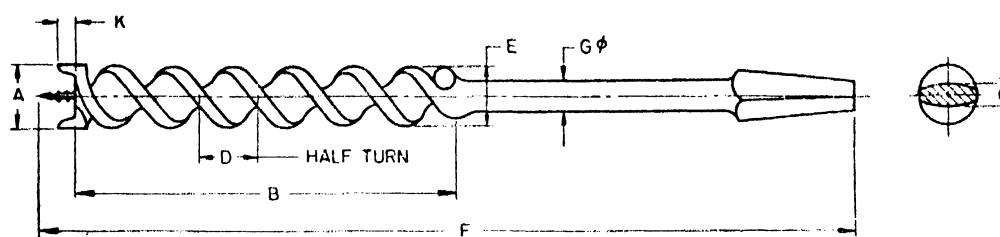
Steel conforming to designation T90 of Schedule VI of IS : 1570-1961 'Schedules for wrought steels for general engineering purposes', with a maximum sulphur and phosphorus content of 0.05 percent each.

5. Hardness — The twist and the cutting edges of bits shall be hardened and tempered to produce a hardness reading within the range 600 to 700 HV10 (see IS : 1501-1959 Method for Vickers hardness test for steel) except that the hardness reading at the commencement of the twist adjacent to the shank shall be within the range 360 to 420 HV10.

TABLE 3 DIMENSIONS FOR JENNINGS PATTERN BITS, TYPE C

(Clause 3.1)

All dimensions in millimetres.



| Nominal Size A + 0.8 - 0 | Length of Twist B* | Sectional Thickness of Twist C | Pitch D | Outside Diameter of Twist E | Overall Length of Bits F | Diameter of Shank G Max | Lead Screw Pitch | Dimension of Spur Above Cutting Edge K |
|-----------------------------------|-----------------------|-----------------------------------|------------|--------------------------------|-----------------------------|-------------------------------|---------------------|---|
| 6 | 95 | 3.0 | 8.5 | 5.5 | 205 | 5.5 | Double Start 1.0 | 0.5 |
| 8 | 95 | 3.0 | 9.5 | 7.5 | 205 | 6 | 1.0 | 0.8 |
| 10 | 100 | 3.0 | 11 | 9 | 215 | 7 | 1.0 | 0.8 |
| 11 | 100 | 3.0 | 12.5 | 10 | 215 | 7 | 1.0 | 1.0 |
| 12 | 110 | 4.0 | 14.5 | 11 | 215 | 7 | 1.0 | 1.2 |
| 14 | 110 | 4.0 | 15.5 | 13 | 230 | 8.0 | 1.25 | 1.2 |
| 16 | 110 | 4.5 | 15.5 | 15 | 230 | 8.0 | 1.25 | 1.2 |
| 18 | 110 | 4.5 | 17.0 | 17 | 230 | 8.0 | 1.25 | 1.4 |
| 20 | 120 | 5 | 20.0 | 19 | 235 | 9.0 | 1.25 | 1.4 |
| 22 | 125 | 5.5 | 20.0 | 21 | 235 | 9 | 1.0 | 1.5 |
| 24 | 135 | 5.5 | 22.0 | 23 | 235 | 9.5 | 1.0 | 1.5 |
| 25 | 135 | 5.5 | 22.0 | 23.5 | 235 | 9.5 | 1.0 | 1.5 |
| 28 | 135 | 6.0 | 25.5 | 25.5 | 240 | 9.5 | Single Start 1.5 | 2.0 |
| 32 | 140 | 7.0 | 25.5 | 29 | 240 | 11.0 | 1.5 | 2 |
| 34 | 140 | 7.0 | 34.0 | 31 | 255 | 11.0 | 1.5 | 2.5 |
| 38 | 140 | 7.0 | 34.0 | 35 | 255 | 11.0 | 1.5 | 2.5 |

*Excluding spur and lead screw.

6. Manufacture, Workmanship and Finish

6.1 The bits shall be soundly forged and or machined to the shape. The screw lead shall lie in the centre of the cutting edges which shall cut equally and simultaneously. The nose, the twist and the round shank and the tang shall be concentric with the axis of the tool. The threads in the screw shall be true and full. The working ends shall be evenly hardened and tempered, and ground ready for use. The tang shall be left as forged.

6.2 The bits shall be free from cracks, seams and other defects.

7. Designation — The bits shall be designated by the type, nominal size and number of this standard.

Example:

Scotch pattern auger bit of the nominal size 10 mm shall be designated as:

Bit B 10 IS : 6891

8. Tests

8.1 Performance Test — The bits shall bore satisfactorily across the grain to a minimum depth of 75 percent of the length of its twist, into a piece of well seasoned and sound sal or similar hardwood of suitable dimensions. The tool shall not be withdrawn during the test. When bore reaches the depth as given above, the bit shall withdraw easily. In addition to hardwood boring test, bits with a Jennings pattern nose shall bore cleanly and smoothly through softwood. At the end of the test the bit shall show no sign of damage, fracture or flaw.

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9. Preservation Treatment and Packing— The bits shall be coated with suitable anti-corrosive paint and ground portion shall be coated with anti-corrosive grease or varnish. They shall be packed in accordance with best prevalent practice.

10. Marking— Each bit shall be legibly and indelibly marked with the nominal size and manufacturer's name, or initials or recognized trade-mark.

10.1 ISI Certification Marking— Details available with the Indian Standards Institution, New Delhi 110001.

11. Sampling— Unless otherwise agreed to between the buyer and the seller the procedure given in IS : 2500 (Part I) - 1963 ' Sampling inspection tables: Part I Inspection by attributes and by count of defects ' may be followed for sampling inspection, the sampling plans for various characteristics being according to **11.1** and **11.2**.

11.1 For inspection of the characteristics, dimensions and tolerances and manufacturer, workmanship and finish, single sampling plan with inspection level III and acceptable quality level (AQL) of 4.0 per cent [see Tables 1 and 2 of IS : 2500 (Part I) - 1963] shall be adopted.

11.2 For the characteristics hardness and performance tests, single sampling plan with inspection level I and acceptable quality level (AQL) of 2.5 percent [see Tables 1 and 2 of IS : 2500 (Part I) - 1963] shall be adopted.

EXPLANATORY NOTE

In the preparation of this standard assistance has been derived from BS 2054 : 1953 ' Augers and auger bits ' issued by British Standards Institution, and specification issued by Chief Inspectorate of General Stores, Kanpur on the subject.